



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,712	12/23/2005	Nobuhiro Higashihara	81872.0106	8642
26/021 7590 11/24/2009 HOGAN & HARTSON L.L.P. 1999 AVENUE OF THE STARS SUITE 1400 LOS ANGELES, CA 90067				
EXAMINER				
VAN, LUAN V				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
11/24/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ctkeyner@hhlaw.com
LAUSPTO@hhlaw.com
lbrivero@hhlaw.com

Office Action Summary

Application No.

10/562,712

Applicant(s)

HIGASHIHARA ET AL.

Examiner

LUAN V. VAN

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 9, 10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5, 9, 10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant's amendment of October 6, 2009 does not render the application allowable. Claims 1-5, 9, 10 and 12-14 are pending in the application.

Status of Objections and Rejections

The objection to the claims has been withdrawn in view of Applicant's amendment. All rejections from the previous office action are withdrawn in view of Applicant's amendment. New grounds of rejection under 35 U.S.C. 103(a) are necessitated by the amendments.

Election/Restrictions

Newly submitted claims 1-4 and claims 5, 9, 10 and 12-14 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: independent claim 1 is amended to recite "detaching the metal plating film from the transfer recipient material". This reads on a different species (directed to Fig. 5) of the invention and is distinct from the original elected invention (directed to Fig. 8). In addition, claim 5 is amended to recite "detaching the metal plating film from the base element to a transfer recipient material or the dielectric sheet pressurizing a transfer recipient material or the dielectric sheet". Again, the alternative

limitation is directed to a different species (Fig. 6) and is distinct from the original elected invention (Fig. 8).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 1-4 and claims 5, 9, 10 and 12-14 (with the limitation of "or the dielectric sheet") are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Objections

Claims 5, 9, 10, and 12-14 are objected to because of the following informalities: Independent claim 5 is amended to recite "detaching the metal plating film from the base element to a transfer recipient material or the dielectric sheet pressurizing a transfer recipient material or the dielectric sheet". However, since the limitation of "or the dielectric sheet" is directed to a different species and is withdrawn from consideration, the nonelected species must be cancelled from the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. (US 4053370) in view of Garrison (US patent 4587166).

Regarding claim 5, Yamashita et al. teaches a process for manufacturing an electronic component, comprising: preparing a base element 14 (Fig. 1) having a convex curved surface; depositing a metal plating film onto the convex curved surface of the base element (column 3 lines 25-28); detaching the metal plating film from the base element, and for attaching the metal plating film with a dielectric sheet 26 (i.e., since the adhesive coated strip 26 is an insulating resin film [column 6 lines 28-32] hence a dielectric material, it is broadly interpreted to be a dielectric sheet); and obtaining an electronic component having a portion with a conductor layer attached on a dielectric layer, wherein detaching and attaching the metal plating film comprises detaching the metal plating film from the base element to a transfer recipient material 20.

Yamashita et al. differs from the instant claims in that the reference does not explicitly teach heating the dielectric sheet with the metal plating film or pressurizing the transfer recipient material to the convex curved surface of the base element.

Garrison teaches applying an adhesive base film to a metal plating film using a nip roller 17 (Fig. 1). The nip roller 17 is positioned so as to guide the adhesive base film into substantially parallel contact with the plated surface of the mandrel.

Since the roller of Garrison is in contact with the mandrel, the roller inherently applies a pressure to the plated surface of the mandrel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have positioned the roller of Yamashita et al. in contact with the surface of the mandrel as taught by Garrison, because Garrison teaches that the mating of the plated surface and

the base film can be accomplished by positioning the roller on the mandrel (column 3 lines 63-67 of Garrison). Furthermore, Yamashita et al. teaches using heat rollers 18 and 26 to bond the metal plating film with the insulating strips. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have heated the insulating strips with the metal plating film thereon in order to of the improve the adhesion of the insulating strips with the metal plating film.

Regarding claim 12, Yamashita et al. teaches wherein the base element 14 has a cylindrical surface and depositing the metal plating film a part of the surface of the base element is immersed in a plating solution, and an electric field is applied between the base element and the plating bath (column 5 lines 17-21).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. in view of Nakao et al. (US patent 6485591).

Yamashita et al. teaches the method as described above. In addition, Yamashita et al. teaches detaching the metal plating film from the base element and transferring to a resin film 20. Yamashita et al. differs from the instant claims in that the reference does not explicitly teach attaching a dielectric slurry.

Nakao et al. teaches applying a ceramic slurry 35, i.e., dielectric slurry, to form a ceramic greenware sheet (Fig. 28).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been applied the ceramic slurry of Nakao et al. in the

method of Yamashita et al., because it would enable the formation of the multilayer laminated-ceramic electronic component.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. in view of Chen et al. (US pub 2001/0009724).

Yamashita et al. teaches the method as described above. Yamashita et al. differs from the instant claims in that the reference does not explicitly teach the specific peak temperature of the heat treatment.

Chen et al. teaches metal coatings are typically annealed at elevated temperature to relieve stress in the coating (paragraph 6-8). For example, electroplated nickel is commonly annealed at 700°C (paragraph 8), which is which is higher than the recrystallizing temperature of the metal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have heated the dielectric sheet having the metal film, as taught by Chen et al., in the method of Yamashita et al., because it would relieve the stress in the metal film (paragraph 8 of Chen et al.).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. in view of Langlais (US 3654115) and Andricacos et al. (US patent 5789320).

Yamashita et al. teaches the method as described above. Yamashita et al. differs from the instant claims in that the reference does not explicitly teach forming a mask

layer on the surface of the base element or the specific material of the masking layer of the instant claim.

Langlais teaches the method of manufacturing a perforated metal foil wherein a rotating cylinder 1 comprises holes 7 filled with an insulating resin material (column 1 lines 60-70). The insulating resin material functions as a mask for deposition.

Andricacos et al. teaches using a diamond-like carbon mask for plating applications, and that DLC is an insulating material whose corrosion resistance allows it to withstand strongly alkaline plating solutions (column 2 line 59 -- column 3 line 5). In addition, a DLC mask is much stiffer than typical photoresist (column 3 line 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed a mask layer on the surface of the cylinder, as taught by Langlais, in the method of Yamashita et al., because it would form a uniform metal strip having a desired pattern. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have substituted the mask of Yamashita et al. in view of Langlais with the DLC mask of Andricacos et al., because DLC is a stiff material (column 3 line 1 of Andricacos et al.).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. in view of Ostwald et al. (US patent 4975160).

Yamashita et al. teaches the method as described above. Yamashita et al. differs from the instant claims in that the reference does not explicitly teach whether the metal plating film includes particles.

Ostwald et al. teaches incorporating ceramic particles in the metalization layer (Abstract) in order to improve the adhesion of the metal layer to the substrate (column 2 lines 6-20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the particles of Ostwald et al. in the metal layer of Yamashita et al., because it would improve the adhesion of the metal layer to the substrate (column 2 lines 6-20 of Ostwald et al.).

Response to Arguments

Applicant's arguments filed have been fully considered but they are not persuasive. In the arguments presented on page 10-12 of the amendment, the applicant argues that Yamashita et al. does not teach pressurizing the roll 14. The examiner agrees. Therefore, Garrison is now relied on to teach a roller for pressurizing an adhesive on a mandrel. Applicants' arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUAN V. VAN whose telephone number is (571)272-8521. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nam X Nguyen/
Supervisory Patent Examiner, Art Unit 1753

LVV
November 18, 2009